

Report to Council



Date: November 27, 2017

File: 1200-90

To: City Manager

From: Tracy Guidi, Sustainability Coordinator

Subject: Climate Action Plan Update: Draft Recommended Actions and Targets

Recommendation:

THAT Council receives, for information, the report from the Sustainability Coordinator dated November 27, 2017, with respect to the Community Climate Action Plan Update.

AND THAT Council directs staff to advance the development of the Community Climate Action Plan based on the targets and recommended actions outlined in the report from the Sustainability Coordinator dated November 27, 2017, with respect to the Community Climate Action Plan Update.

Purpose:

To obtain Council's feedback on the draft recommended actions and targets for the Community Climate Action Plan Update prior to stakeholder and public engagement.

Background:

In 2017, Kelowna experienced one of its most extreme weather years on record. Record levels of spring precipitation led to historic flooding of Okanagan Lake, Mission Creek and Mill Creek, impacting approximately 3,200 residents in the community. This was followed by one of the hottest and driest July and August on record¹, factors contributing to a devastating wildfire season and the community blanketed in smoke. As global greenhouse gas (GHG) emissions continue to grow, these types of extreme weather events are expected to occur more regularly.

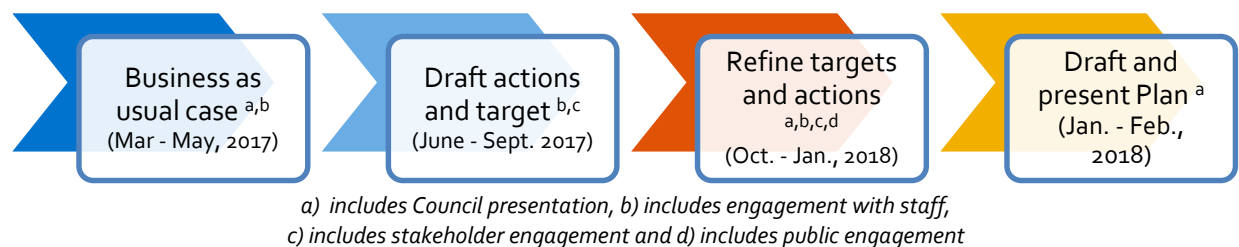
The release of greenhouse gas emissions and the resulting impacts on the climate have consequences for Kelowna's economies, ecosystems and social well-being. Municipalities have the ability to influence and lead GHG reductions through land use planning, transportation options, building requirements and waste services. Moving towards a low carbon community helps create a city that Kelowna residents want to live in, as heard through Imagine Kelowna, a city that takes leadership on climate, transportation, urban sprawl, housing and the environment.

¹ Hottest, driest on record, Sep 1, 2017. <https://www.castanet.net/news/Kelowna/205602/Hottest-driest-on-record>

Updating Kelowna's current Climate Action Plan examines *mitigation* options, those actions that can be taken to reduce GHG emissions to limit the extent of climate change. Developing the Plan requires understanding the current state, assessing actions that can be undertaken and how those actions reduce GHG emissions and energy use. The Plan will also position the City to take advantage of forthcoming Federal funding for green infrastructure and other initiatives. The Plan does not take into account what the City needs to do to *adapt*, or prepare for climate change impacts that are anticipated regardless of local efforts to reduce GHG emissions over the coming decades.

Initiated in the spring of this year, the Community Climate Action Plan Update adheres to the planning process illustrated in Figure 1:

Figure 1: Community Climate Action Plan Update Planning Process

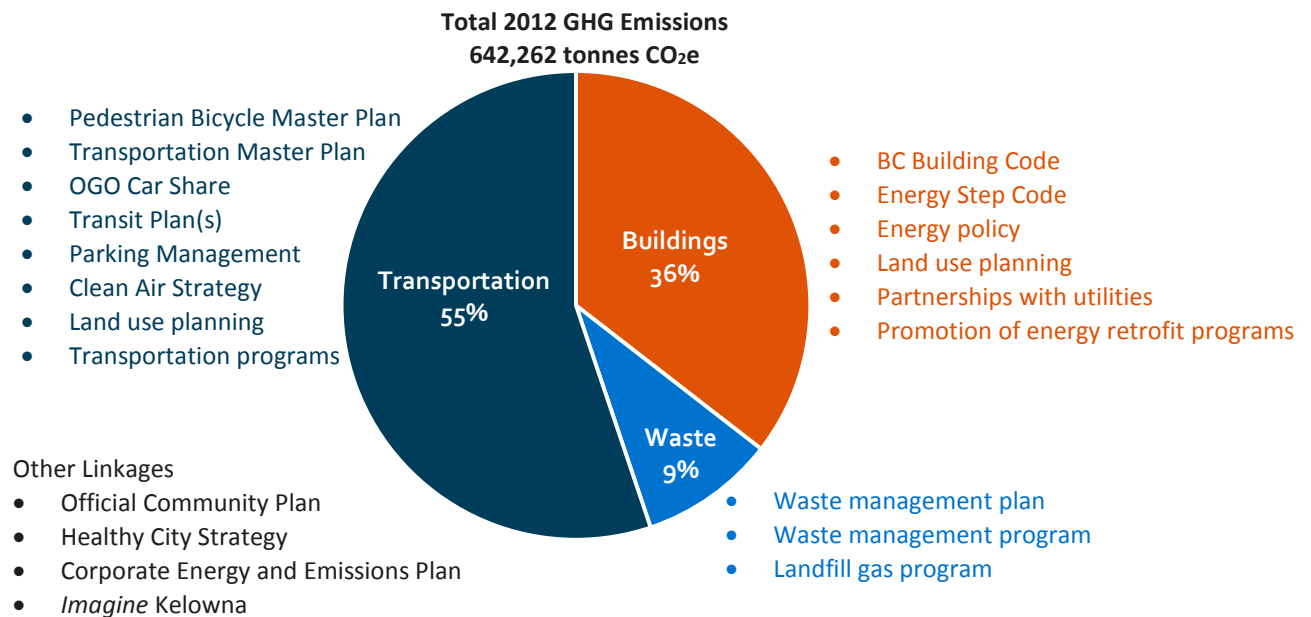


Current State

Based on the most recent provincial Community Energy and Emissions Inventory (data from 2012), Kelowna's community greenhouse gas emissions are over 642,000 tonnes², with the bulk of emissions coming from vehicles (55 per cent), followed by buildings (36 per cent) and waste (9 per cent). These emissions represent a 3.5 per cent decrease from the 2007 baseline (equivalent to 12 per cent per capita reduction). The Community Climate Action Plan (CCAP) update will set out strategic directions and actions to mitigate Kelowna's contribution to climate change. As illustrated in Figure 2, the City has abundant opportunities to influence emissions in all three sectors:

² The Province provides [Community Energy and Emissions Inventories \(CEEI\)](#) for local governments to track progress. The 2012 data release failed to include transportation emissions outside the lower mainland due to challenges in the data. Staff have worked with a consultant to estimate on-road transportation sector using pump fuel sales.

Figure 2: City of Kelowna Community GHG Emissions and Climate Connections



Draft Actions

Kelowna businesses and residents spent over \$341 million on energy in 2012 (approximately \$2,900 per capita). With rising electricity and oil costs, these expenditures are expected to increase. Supporting actions that encourage energy conservation and efficiency, changes to transportation and encouragement of renewable energy will not only reduce emissions, but will also reduce personal energy costs and redirect these savings to the local economy.

Over the past few months, Policy and Planning, along with the project's consultant, Community Energy Association, have been engaging staff from a variety of departments to identify actions to reduce the community's greenhouse gas emissions.

For the Community Climate Action Plan update, actions have been drafted in key categories where the City can show leadership and provide opportunities for the community to take action (see Appendix A: Draft Recommended Actions):

1. **The Way We Get Around** – providing options to reduce reliance on single occupant vehicles and accelerate transition to low carbon transportation options.
2. **The Energy We Use in Our Buildings** – improving energy performance and reducing GHG emissions in new and existing buildings.
3. **The Waste We Create** – increasing the diversion of waste from the landfill.
4. **Planning Our Community** – managing energy and emissions by focusing growth in urban areas so residents and workers are located closer to transit and services.
5. **Encouraging Renewable Energy** – encouraging the use of renewable energy alternatives.
6. **Other** – actions that support Kelowna moving towards a low carbon future.
7. **Ambitious Actions** – these are actions are ambitious in nature and have not been incorporated into the emission reduction model for analysis. While immediate results may not be noticed, adopting these actions early provide long term benefits.

Actions in each category are classed as:

- **Actions in progress** – these actions have already been initiated and will continue to be implemented over the span of the Community Climate Action Plan Update.
- **Actions to implement** – these actions are recommended to be executed as part of Community Climate Action Plan implementation and staff and/or resources are available to support the implementation.
- **Actions to investigate** – these actions require further investigation to fully assess the staff and financial resource implications before implementation.
- **Actions to support** – these are led by external organizations and the City would support.

Based on the actions drafted, the Community Energy Association (CEA) used their QuickStart model to estimate the potential greenhouse gas reductions that could be achieved over the next five years. Developed in 2010 on behalf of BC Hydro and used by approximately 60 communities to date, the QuickStart model builds on existing information including population data, provincial community energy and emissions inventory data, and a comprehensive list of practical actions a local government can take to reduce energy and emissions. The model includes formulas to estimate the impact of each action based on CEA knowledge and research.

Implementing the recommended actions over the next five years, it is estimated that the community will be able to achieve an absolute GHG reduction of 4 per cent below 2007 levels by 2023. While some of these actions are regulatory in nature (e.g. implementing an anti-idling bylaw), other actions rely on community behavioral shifts as the City provides more opportunities for residents to lead a low carbon lifestyle (e.g. expansion of the pedestrian and bicycle networks, or more transit opportunities).

As Kelowna continues to grow, the application of smart growth principles³ through policy will be crucial, and while it may not have immediate, measurable effects, it will mitigate the long-term growth in greenhouse gas emissions. Examples of other actions that are expected to show measurable reductions in energy and GHG emissions over the next five years include:

- Develop a community electric vehicle strategy (Action T4)
- Implement the capital projects of the Pedestrian and Bicycle Master Plan (Action T2)
- Adopt an anti-idling bylaw (Action T7)
- Continue improving public transit service delivery (Action T3)
- Community Energy Retrofit Strategy (Action B2)
- Energy Step Code Strategy (Action B3)
- Implement the draft 2017 Solid Waste Management Plan to achieve a per capita disposal rate of 600 kg per capita by 2022. (Action W1)

Draft Target

On May 8, 2017 workshop, Council provided input on the direction for an update to Kelowna's Community Climate Action Plan. Council directed Staff to move forward with two underlying themes. First, develop short-term targets that are **realistic and pragmatic**, to ensure that the community can achieve the established targets and demonstrate incremental progress and success. Secondly, to

³ The 10 principles of Smart Growth include: housing choice; vibrant, walkable complete communities; smart building design; renew existing communities; green infrastructure; green space, farmland and ecologically sensitive areas; broad-scale, integrated planning; transportation options; community involvement; and focus on implementation. Smart Growth Canada Network, http://www.smartgrowth.ca/home_e.html

ensure that **bold leadership** is still present in the Plan, and that the City is positioned to be a leader and not passing the monumental responsibility to future generations. Accordingly, Staff have developed two target streams: one is the short term, pragmatic target that recommends early actions to achieve a 5-year reduction GHG target. The second is a longer term, aspirational target, which takes the long view and sets in motion many decades of progressive shifts.

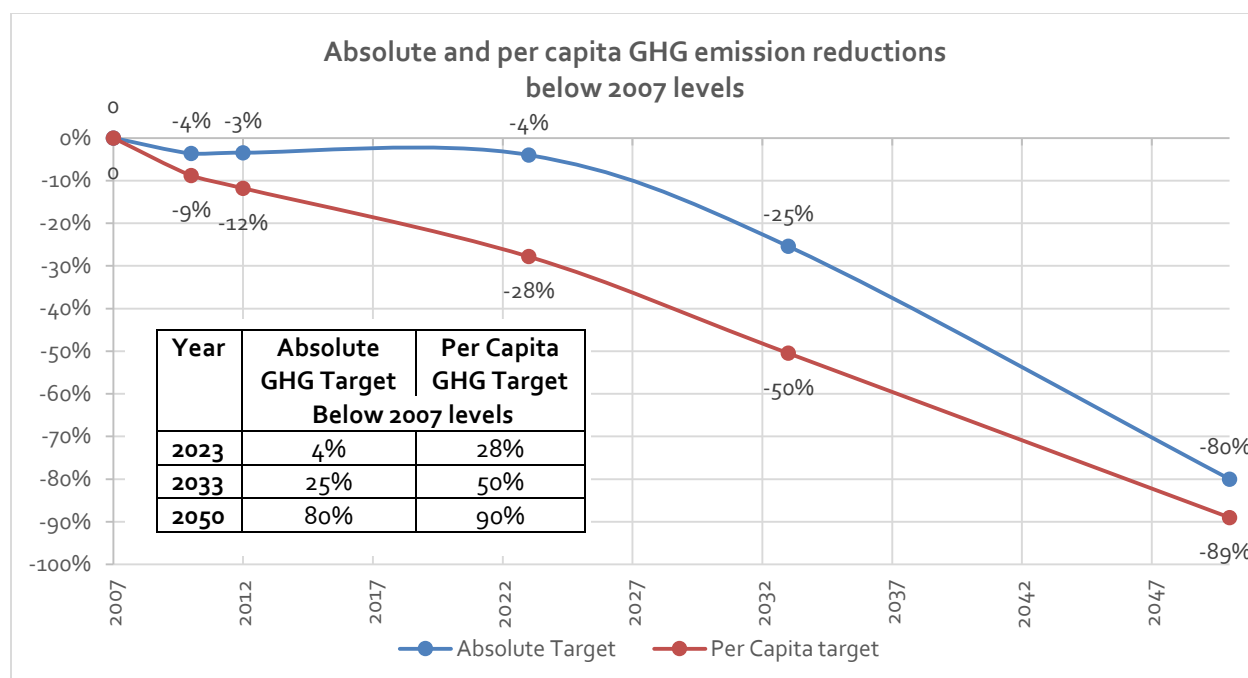
The draft actions build on work accomplished over a number of years at the City and provide a path forward to achieve our GHG reduction target. As strategies and technologies continue to evolve and new possibilities and partnerships emerge, the Community Climate Action Plan will be a guide to that end goal with interim targets.

The targets recommended by staff reflect the City's efforts to define an assertive and pragmatic low-carbon path that will slow emissions growth. Including a per capita target, as well as a community absolute target, demonstrates that because of the community's considerable population growth, a short-term pragmatic target is still a large per capita reduction in GHG emissions. The targets also move the City towards a long term aspirational target aligned with the Province⁴ and other BC municipalities:

- **4 per cent below 2007 levels by 2023 (equivalent to 28 per cent per capita reduction)** - based on the model results of the emission reductions that can be achieved by implementing the draft actions over the next five years.
- **25 per cent below 2007 levels by 2033 (equivalent to 50 per cent per capita reduction)** – based on incremental steps to achieve the long term target as it is anticipated significant technological advances will accelerate progress.
- **80 per cent below 2007 levels by 2050 (equivalent to 90 per cent per capita reduction)** – target is aligned with the Provincial Climate Leadership Plan target, which recognizes that “the pathway to that goal is not always clear, as true sustainability means balancing environmental, economic and social concerns.... There is no silver bullet here — real climate action demands careful planning, a flexible approach, and coordination.”⁵

⁴ Province of BC, 2016. BC Climate Leadership Plan, 2050 emissions reduction target of 80 per cent below 2007 levels.

⁵ Province of BC, 2016. BC Climate Leadership Plan, page 44



These interim targets put the City on an incremental journey to achieve the ultimate goal of reducing GHG emissions by 80 percent by 2050. It is recognized that this path may not be able to be solved with current technology and regulations, however, the actions taken over the next five years will influence the greenhouse gas emissions of our community for decades to come. Further, there are many initiatives on the horizon that could be major game changers in reducing greenhouse gas emissions in the next few decades including:

- An increase in the proportion of electric vehicles on the road as more automakers make commitments to reduce reliance on fossil fuels and these vehicles become mainstream in the market place;
- Introduction and growth of driverless shared vehicles (some predict that fully automated vehicles will become the prevailing mode of urban transportation by the 2030s⁶);
- Urban centres will continue to densify resulting in a reduced carbon footprint; and
- All new buildings will be required to be Step 5 of the Energy Step Code (net zero energy ready) by 2032 and older building stock will start to be replaced with energy efficient buildings.

Next Steps:

After obtaining Council's input, staff and the consultant will initiate engagement to gather input on the target and actions, and determine other actions that could be taken in the community to reduce greenhouse gas emissions. Engagement will include:

- Stakeholder Engagement (November, 2017)
- Community Engagement (January, 2018)

⁶ University of Toronto Faculty of Applied Science and Engineering, 2015. Driving Changes: Automated Vehicles in Toronto, page 20.

After gathering input from stakeholders and the public, staff and the consultant will draft the Community Climate Action Plan update. Once the draft plan is complete, staff will report back to Council.

Concurrently, a Community Energy Specialist is being hired to begin work on several of the actions including an Energy Step Code Strategy and Community Energy Retrofit Strategy with a grant from FortisBC's Climate Action Partners Program.

Conclusion:

The decisions made by Council today will have long term impacts on Kelowna's GHG emissions. Formulating policy and corresponding decisions that support the car culture and sprawl sets Kelowna on a path for continual increases in greenhouse gas emissions for decades to come as demonstrated through research recently completed by UBC.⁷ However, choosing to make progressive and bold decisions early will allow Kelowna to reap the benefits of reduced emissions and lower energy costs for decades to come and influence decisions for the next generation. Ideas include:

- Endorse steps of the Energy Step Code early – so that the thousands of buildings constructed between now and 2032 (when the Province fully implements the Energy Step Code) incorporate efficiency measures which will have lasting impacts to building performance.
- Say no to development in the fringe – a compact efficient city, with a corresponding transportation system has lighter environmental footprint and is economical to operate and maintain.
- Higher investment into alternative transportation – prioritize alternative modes of transportation through proximity, concentration and urban design.

The City can provide leadership, but it is up to everyone, citizens, businesses, senior governments, to do their part, to rethink, re-evaluate, and re-imagine the way they lead their lives to make the commitment to making the planet a better place for future generations. Moving towards a low carbon future is a monumental challenge, but cities leading the way will benefit in terms of creating a community that is vibrant, responsible and sustainable. It also provides hope that tomorrow will be at least as good as today.

Internal Circulation:

Divisional Director, Community Planning and Strategic Investments
Divisional Director, Infrastructure
Infrastructure Operations Department Manager
Integrated Transportation Department Manager
Development Services Director
Community Planning Department Manager
Strategic Transportation Planning Manager
Energy Program Manager
Fleet Services Manager
Infrastructure Engineering Manager
Manager, Parks & Buildings Planning
Manager, Parks Services
Suburban and Rural Planning Manager

⁷ The University of British Columbia, Okanagan Campus. Investigating the Impacts of Urban Densities on City of Kelowna's GHG Emission Targets, 2016.

Utility Services Manager
Parking Services Manager
Transportation Planner
Communications Advisor
Environmental Technician II
Term Appointment

Existing Policy:

- OCP Objective 6.2 "Improve energy efficiency and reduce community greenhouse gas emissions."
- OCP Policy 6.2.1 GHG Reduction Target and Actions. The City of Kelowna will, in partnership with: senior governments; local residents and businesses; NGOs; external agencies; and utility providers, work towards reducing community greenhouse gas emissions by 33% (from 2007 levels) by 2020.

The City of Kelowna's efforts will be focused on creating more mixed use neighborhoods (as identified on the OCP Future Land Use map) and on ensuring that residents can conveniently and safely travel by bus or by foot, bicycle and other forms of active transportation to get to major community destinations while ensuring the efficient movement of goods and services.

The City will support the reduced use of fossil fuels in buildings by encouraging renewable energy supplies, district energy systems and energy efficient technologies in new and existing buildings. By working with senior government partners, regulated utilities and others, the City will lead through example and strive to meet the BC Climate Action Charter targets for the reduction of GHG emissions from municipal infrastructure.

The City of Kelowna also has a Corporate Energy and Emissions Plan that focusses on corporate greenhouse gas emissions. It should be noted that Building Services also plans to update the City's Corporate Energy and Emissions Plan later this year, focusing on opportunities to reduce energy and emissions in City facilities and fleet, while positioning the City as a leader in climate mitigation in the community.

- Corporate Greenhouse Gas Emissions include the GHG emissions from the City of Kelowna's corporate fleet and buildings (i.e.: City Hall). Corporate GHG emissions are estimated to be approximately 1% of the total emissions for Kelowna.
- Community Greenhouse Gas Emissions refer to the GHG emissions from Kelowna's residents and businesses and include transportation, buildings and waste. Community GHG emissions are estimated to make up 99% of the total emissions for Kelowna.

Financial/Budgetary Considerations:

The cost to complete the Community Climate Action Plan update is \$45,000. The City of Kelowna acknowledges the support of FortisBC, who granted \$22,485 towards the project. The remaining funds will be covered through existing budgets. It should be noted that the FortisBC grant is time sensitive and the final report is required by March 31, 2018.

Considerations not applicable to this report:

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements:

Personnel Implications:
External Agency/Public Comments:
Communications Comments:
Alternate Recommendation:

Submitted by:

Tracy Guidi, Sustainability Coordinators

Approved for inclusion:



DNB

cc:

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Integrated Transportation Department Manager
Development Services Director
Community Planning Department Manager
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Utility Services Manager
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